

## Pinus ponderosa / Juniperus communis Woodland

COMMON NAME	Ponderosa Pine / Common Juniper Woodland
SYNONYM	Ponderosa Pine / Common Juniper Woodland
PHYSIOGNOMIC CLASS	Woodland (II)
PHYSIOGNOMIC SUBCLASS	Evergreen woodland (II.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar needle-leaved evergreen woodland (II.A.4)
PHYSIOGNOMIC SUBGROUP	Natural/semi-natural (II.A.4.N)
FORMATION	Rounded-crowned temperate or subpolar needle-leaved evergreen woodland (II.A.4.N.a.)
ALLIANCE	<i>Pinus ponderosa</i> Woodland Alliance

CLASSIFICATION CONFIDENCE LEVEL 2

USFWS WETLAND SYSTEM Upland

### RANGE

#### Globally

This community is found in eastern Montana, the Bighorn Mountains in northern Wyoming and the Black Hills of western South Dakota and eastern Wyoming.

#### Jewel Cave National Monument

This community occurs throughout most of the Jewel Cave area. In the study area, it was not found east of the Monument nor in the eastern portion of the park.

### ENVIRONMENTAL DESCRIPTION

#### Globally

This community is most often found on moderate north and west facing slopes (Hansen and Hoffman 1987, Hoffman and Alexander 1987, Hoffman and Alexander 1976). The soils are shallow and loamy.

#### Jewel Cave National Monument

This community commonly occurs on moderate to steep slopes (20 - 30 degrees), although it occasionally is found on slopes as gentle as 5 degrees. It was found on all aspects.

### MOST ABUNDANT SPECIES

#### Globally

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i>
Short shrub	<i>Juniperus communis</i>
Herbaceous	<i>Carex inops</i> ssp. <i>heliophila</i> , <i>Schizachyrium scoparium</i>

#### Jewel Cave National Monument

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i>
Subcanopy	<i>Pinus ponderosa</i>
Short shrub	<i>Juniperus communis</i>

### DIAGNOSTIC SPECIES

#### Globally

*Pinus ponderosa*., *Juniperus communis*, *Mahonia repens*, *Achillea millefolium*.

**USGS-NPS Vegetation Mapping Program**  
**Jewel Cave National Monument**

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*Jewel Cave National Monument*  
*Pinus ponderosa, Juniperus communis*

**VEGETATION DESCRIPTION**

*Globally*

This community is dominated by *Pinus ponderosa* in the overstory. Other tree species that may be present are *Picea glauca* and *Populus tremuloides*. The canopy is usually moderately closed but can become nearly closed in stands that are not disturbed for long periods. There is a prominent low shrub layer whose most abundant component is *Juniperus communis*. This species covered an average of 25% (range of 4-42%) in 7 stands in the Black Hills of South Dakota and Wyoming (Hoffman and Alexander 1987). Total average cover by the shrub layer was 51% and by the herb layer was 8%. Other shrub species found in this community across its range are *Arctostaphylos uva-ursi*, *Mahonia repens*, *Spiraea betulifolia*, and *Symphoricarpos albus*. Typical herbaceous species are *Achillea millefolium*, *Carex inops* ssp. *heliophila*, *Schizachyrium scoparium*, *Fragaria* spp., and *Lathyrus ochroleucus* (McAdams et al. 1998).

*Jewel Cave National Monument*

Stands of this type are dominated by *Pinus ponderosa* in both the canopy and subcanopy. Subcanopy coverage often is greater than canopy coverage, and stands of doghair are common. Short shrub coverage typically is less than 10%, with *Juniperus communis* present but not abundant. Other shrub species may be present, including *Physocarpus monogynous*, *Arctostaphylos uva-ursi*, and *Symphoricarpos albus*. Herbaceous cover is relatively sparse, rarely exceeding 10%.

**OTHER NOTEWORTHY SPECIES**

**CONSERVATION RANK** G4?

**RANK JUSTIFICATION**

**DATABASE CODE** Cegl000859

**COMMENTS**

*Globally*

The canopy in this type is usually moderately closed but can become nearly closed in undisturbed stands (i.e., where the natural disturbance regime has been disrupted).

The stands used to document the *Pinus ponderosa* / *Juniperus communis* Habitat Type described by Hoffman and Alexander (1987) and Hansen and Hoffman (1988) had very high basal area and densities for a woodland, possibly due to their sampling procedure. The dense structure may have affected the floristic makeup of the stands. Additionally, there is some ambiguity between this type as a forest or woodland; in increasingly dense stands, this type has >60% canopy closure.

**REFERENCES**

- Hansen, P. L. and G. R. Hoffman. 1988. The vegetation of the Grand River/ Cedar River, Sioux, and Ashland Districts of the Custer National Forest: A habitat type classification. General Technical Report RM-157. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 68 p.
- Hoffman, G. R. and R. R. Alexander. 1976. Forest vegetation of the Bighorn Mountains, Wyoming: A habitat type classification. Research Paper RM-170. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 38 p.
- Hoffman, G. R. and R. R. Alexander. 1987. Forest vegetation of the Black Hills National Forest of South Dakota and Wyoming: A habitat type classification. Research Paper RM-276. USDA Forest Service, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO. 48 p.
- Johnston, B. C. 1987. Plant associations of region two. R2-ECOL-87-2. USDA Forest Service, Rocky Mountain Region, Lakewood, CO. 429 p.

Jones, G. 1992. Wyoming plant community classification. Unpublished draft. Wyoming Natural Diversity Database, The Nature Conservancy, Laramie, WY.

McAdams, A. G., D. A. Stutzman, and D. Faber-Langendoen. 1998. Black Hills Community Inventory, unpublished data. The Nature Conservancy, Midwest Regional Office, Minneapolis, MN.

Thilenius, J. F. 1970. An isolated occurrence of limber pine (*Pinus flexilis* James) in the Black Hills of South Dakota. *American Midland Naturalist* 84(2):411-417.